April 3, 1973
Preliminary Copy
University of Idaho
Soil Conservation Service

Thatuna Silt Loam
68 Ida 0513

General Site Characteristics

Location -- Benewah County, Idaho, 440 feet north, 40 feet east of southwest corner of section 24, T. 44 N., R. 6 W.; described -- June 18, 1968 by Hal Biggerstaff and Donald Hoxwell; topography -- rolling loess hills, undulating, slightly concave, 5 percent slope; elevation -- 2740 feet; aspect -- west; parent material -- loess; drainage -- moderately well; erosion -- slight; permeability -- moderate to moderately slow in B'2t; ground water -- below 60 feet; root distribution -- to 42 feet and through peds; vegetation or use -- wheat (Gaines); classification -- fine silty, mixed, mesic Boralfic Argixerolls.

Pedon Description

Ap 0-10 inches. Dark grayish brown (10YR 4/2) silt loam, very dark gray (10YR 3/1) moist; weak medium to fine platy structure; slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; plentiful micro and very fine roots; few very fine tubular pores; trace of concretions; clear smooth boundary.

A11 10-18 inches. Dark grayish brown (10YR 4/2) silt loam, very dark gray (10YR 3/1) moist; weak medium subangular blocky to weak fine subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; plentiful micro and very fine roots; common fine tubular pores; diffuse smooth boundary.

A12 18-27 inches. Dark grayish brown (10YR 4/2) silt loam, very dark gray (10YR 3/1) moist; weak coarse to medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; plentiful micro and very fine roots; common fine tubular pores; trace of concretions; clear irregular boundary.

A3 27-31 inches. Brown (10YR 5/3) silt loam, very dark grayish brown (10YR 3/2) moist; massive, slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; few very fine roots; common fine tubular pores; few root channels filled with A1 material (worm casts); gradual smooth boundary.

B1 31-35 inches. Brown (10YR 5.4/3) silt, dark brown (10YR 3/2.6) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; few micro and very fine roots; common fine tubular pores; trace of concretions; few root channels filled with A1 material (worm casts); clear smooth boundary.

B2 35-42 inches. Light yellowish brown (10YR 6.4/4) silt loam, dark yellowish brown (10YR 4/4) moist; weak coarse to medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; noncalcareous; very few micro roots; common fine tubular pores; few concretions larger than 2 mm; few root channels filled with A1 material (worm casts); clear smooth boundary.

A'2 42-50 inches. Very pale brown (10YR 7/4) silt, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; noncalcareous; common fine tubular pores; common concretions larger than 2 mm; few root channels filled with A1 material (worm casts); diffuse irregular boundary.

B'2t 50-60 inches. Brownish yellow (10YR 6/6) silt loam, strong brown (7.5YR 5/6) moist; moderate coarse prismatic to moderate fine prismatic structure; hard, friable, sticky, plastic; noncalcareous; many fine and few medium tubular pores; medium nearly continuous clay films on vertical and horizontal pore surfaces; evidence of tending toward a fragipan (slightly brittle).

Chemical characterization and physical analysis of profile — Thatuna 68-2 — 68 Ida 0513

Benewah County — SCS No. 68-2

No.	Horizon	Depth in.	pH Paste	pH 1:5	ECx10^3	Saturation extract me/1000 gms soil: Ca	Mg	Na	K	CO_3	HCO_3	Cl	SO_4
1	Ap	0-10"	5.70	5.89	0.49								
2	A11	10-18"	6.05	6.19	0.41								
3	A12	18-27"	6.47	6.50	0.25								
4	A3	27-31"	6.60	6.61	0.33								
5	B1	31-35"	6.65	6.59	0.30								
6	B_2	35-42"	6.70	6.61	0.20								
7	A^1_2	42-50"	6.69	6.42	0.27								
8	B^1_{2t}	50-60"	6.70	6.73	0.23								

Extractable ions me/100 gms: Ca	Mg	Na	K	H	C.E.C. meq/100	Base Sat.%	Gyp.	$CaCO_3$	E.S.P.	C	O.M. %	N %	C:N	Pw at sat.	Soil:Rx Ratio
13.0	4.69	0.20	1.00	11.04	23.93				0.83	2.348	4.02	0.182	12.87	60.0	
15.0	3.13	0.30	0.91	11.04	27.81				1.08	2.929	5.04	0.244	12.01	69.0	
13.0	3.19	0.40	0.91	8.99	23.19				1.72	2.009	3.46	0.158	12.68	82.0	
10.94	3.28	0.40	0.87	6.75	15.80				2.53	1.108	1.91	0.101	11.02	68.0	
7.19	2.66	0.35	0.65	5.11	13.31				2.63	0.471	0.81	0.062	7.58	56.0	
7.81	2.30	0.40	0.68	4.09	10.44				3.83	0.366	0.63	0.047	7.74	85.0	
3.75	1.63	0.28	0.24	2.05	6.93				4.04	0.153	0.26	0.019	7.88	56.0	
10.94	5.47	0.55	0.63	5.11	21.34				2.58	0.160	0.28	0.028	5.63	50.0	

Superscript 1 represents "prime" (')

Profile Thatuna 68 Ida 0513 September 2, 1969

	Particle size distribution (mm) (percent)								Gravel &	Texture
No.	VCS	CS	MS	FS	VFS	TS	TSi	TC	Stone, etc.	Class
	2-1.0	1-0.5	0.5-0.25	0.25-0.05	0.1-0.05	2.05	0.05-0.002	<0.002	>2mm	
0-10	.02	.04	.08	.62	6.21	6.96	71.62	21.41		Silt loam
10-18	.03	.13	.15	.73	5.74	6.78	71.27	21.94		Silt loam
18-27	.02	.02	.04	.58	6.02	6.70	74.13	19.18		Silt loam
27-31	-	.02	.04	.58	8.02	8.66	76.06	15.28		Silt loam
31-35	.02	.06	.07	1.02	.97	2.05	86.02	11.93		Silt
35-42	-	.08	.02	.69	7.58	8.39	77.11	14.50		Silt loam
42-50	-	.02	.09	.73	1.36	2.21	91.98	5.81		Silt
50-60+	-	.01	.02	.46	4.09	4.59	72.14	23.27		Silt loam

	Bulk Density g/cc
0-10	1.45
10-18	1.21
18-27	1.08
27-31	1.24
31-35	1.30
35-42	1.36
42-50	1.55
50-60+	1.77